

Fig. 5

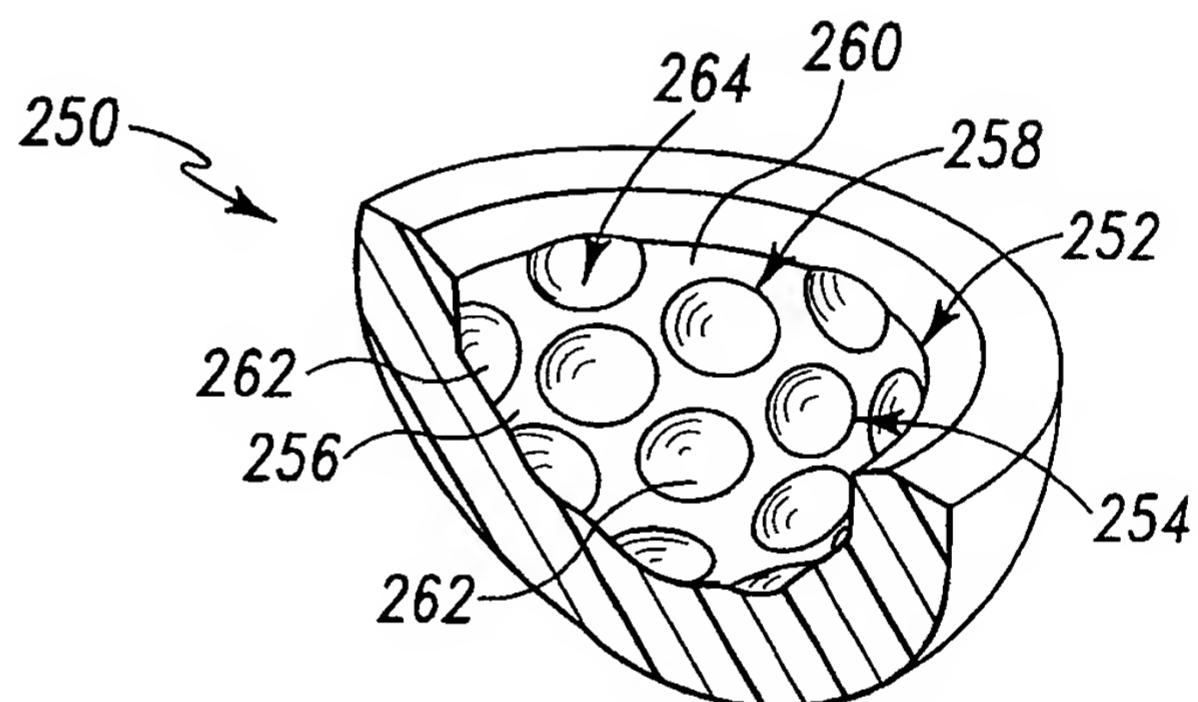


Fig. 6

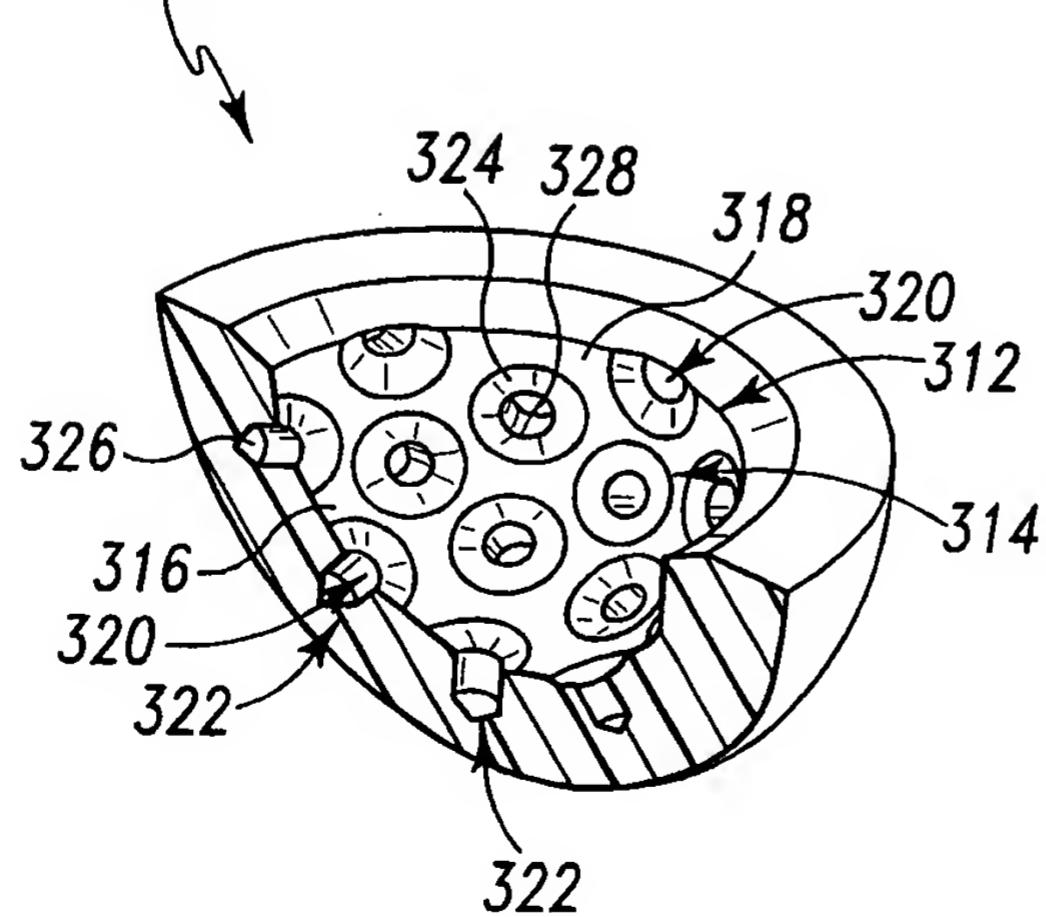


Fig. 7

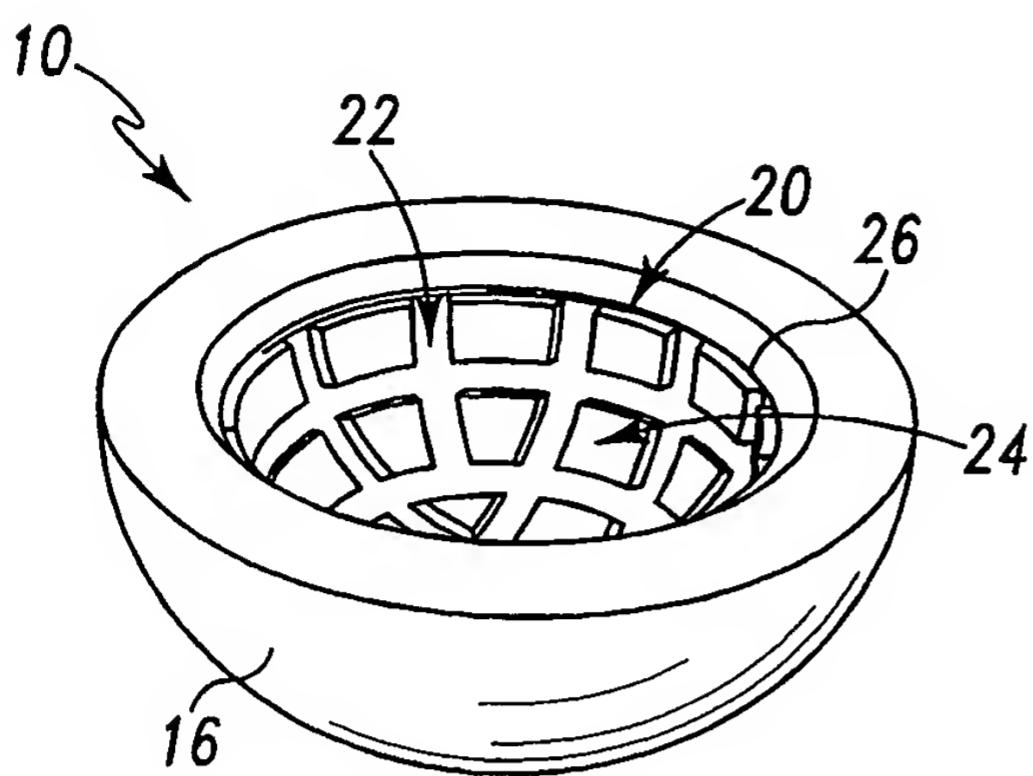


Fig. 1

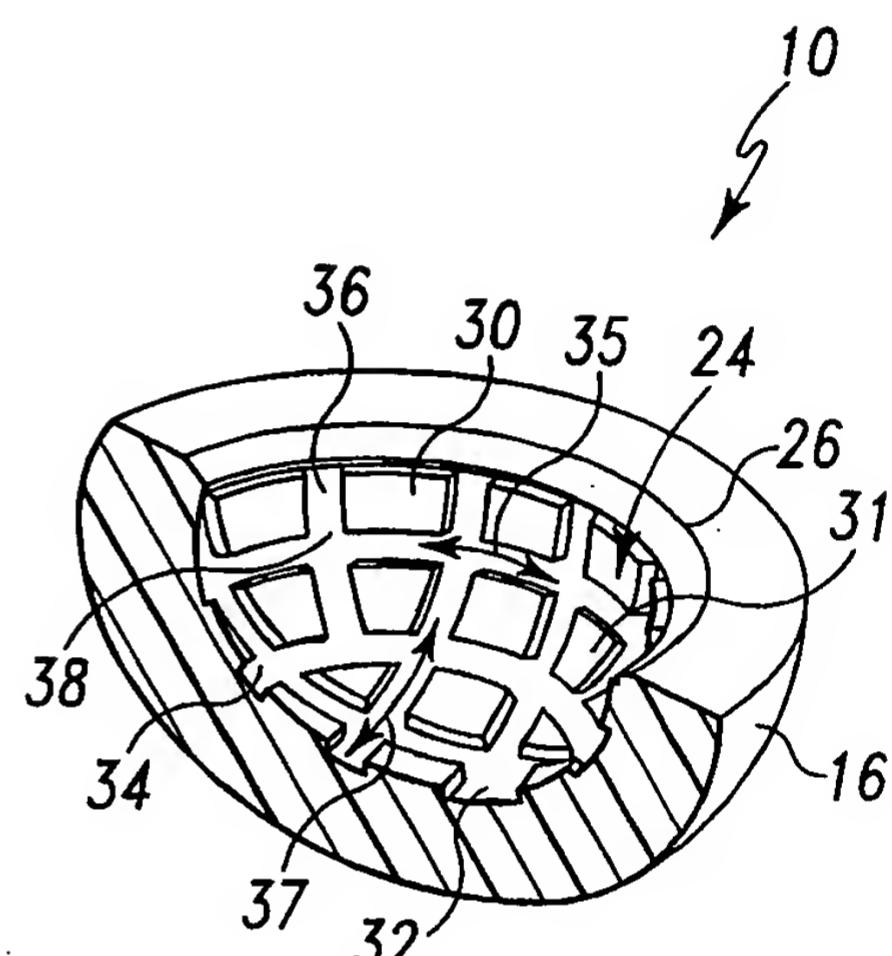


Fig. 2

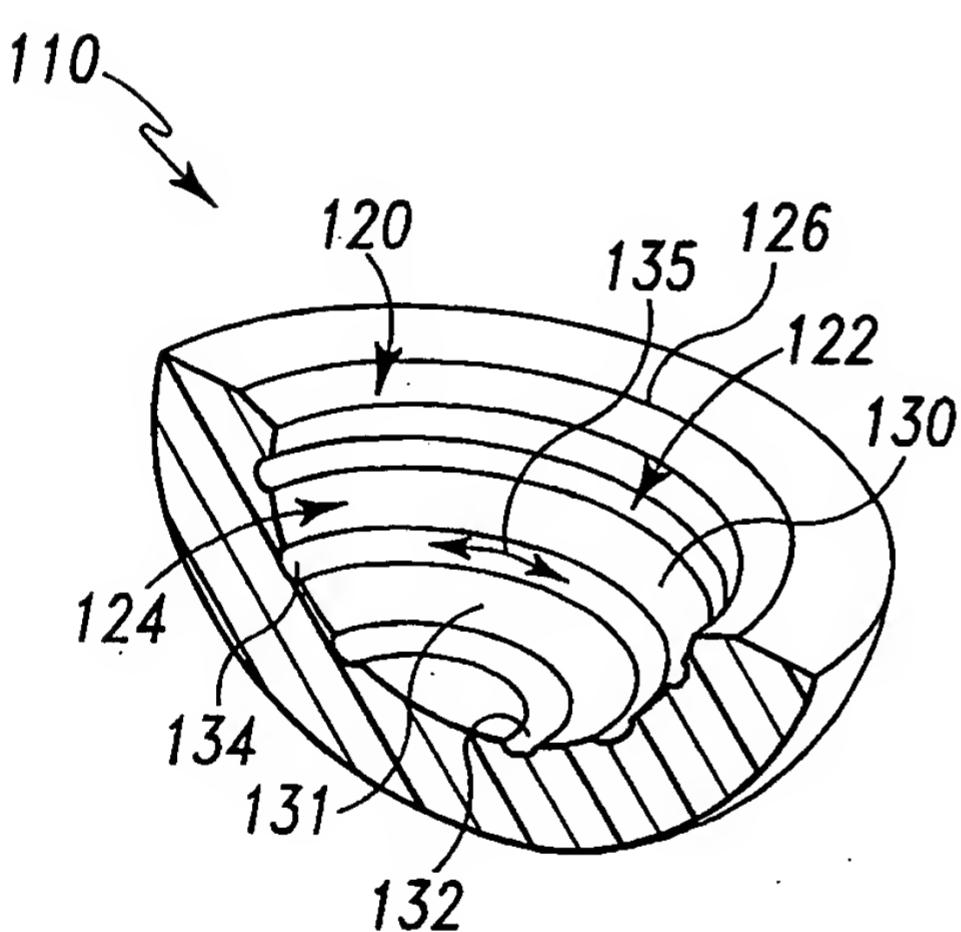


Fig. 3

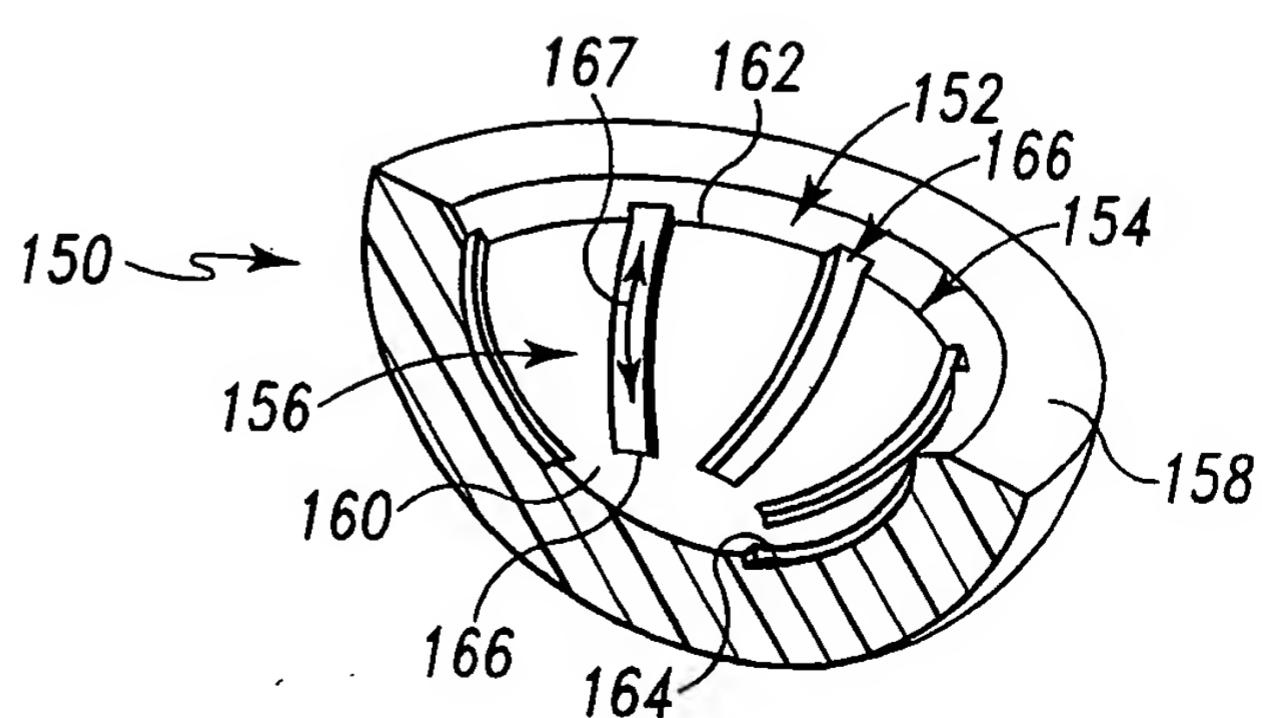


Fig. 4

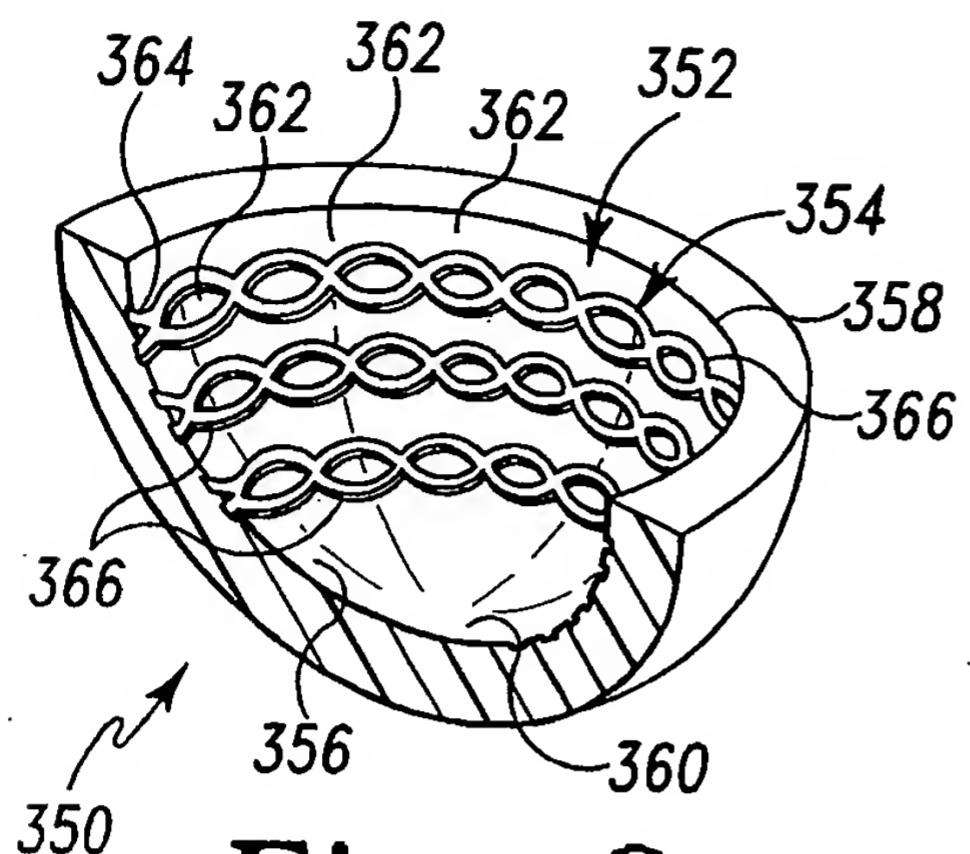


Fig. 8

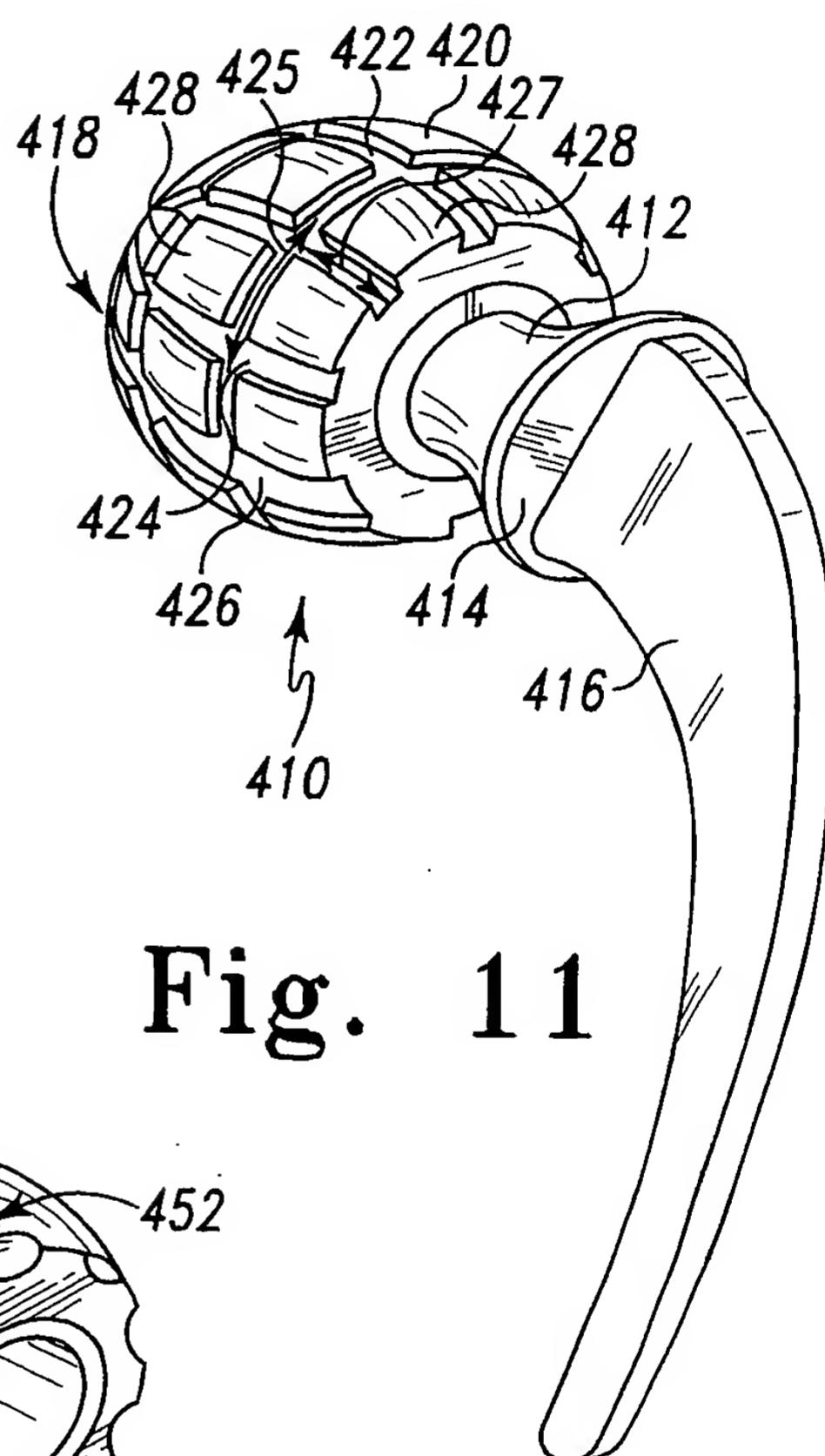


Fig. 11

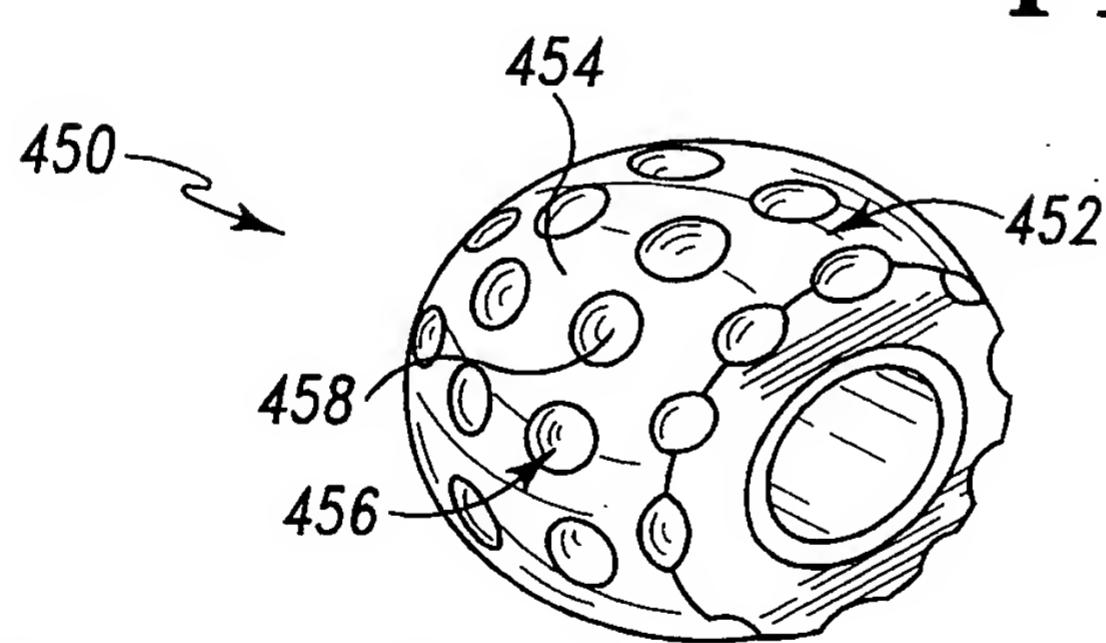


Fig. 12

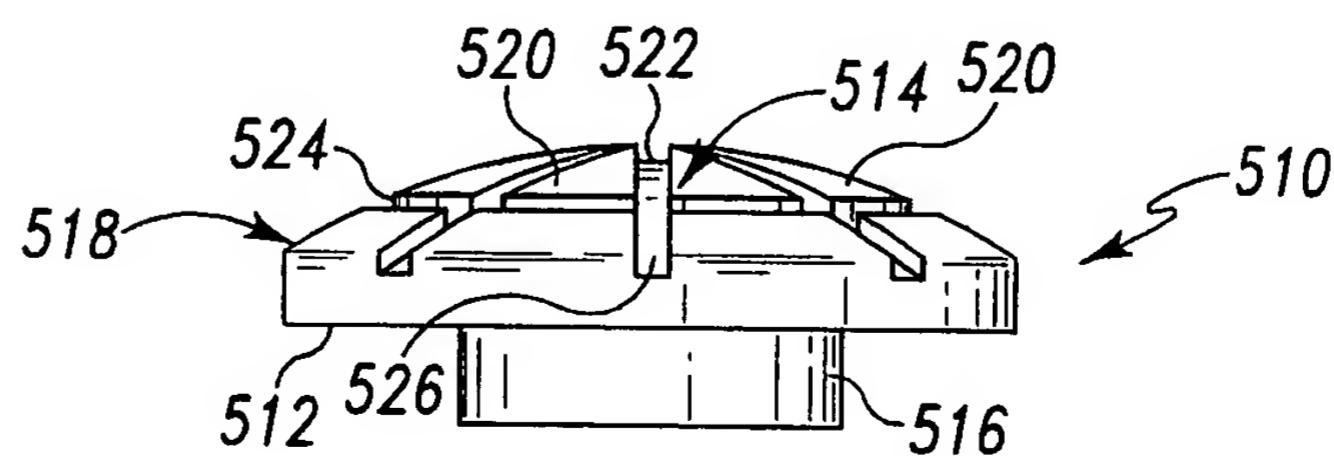


Fig. 13

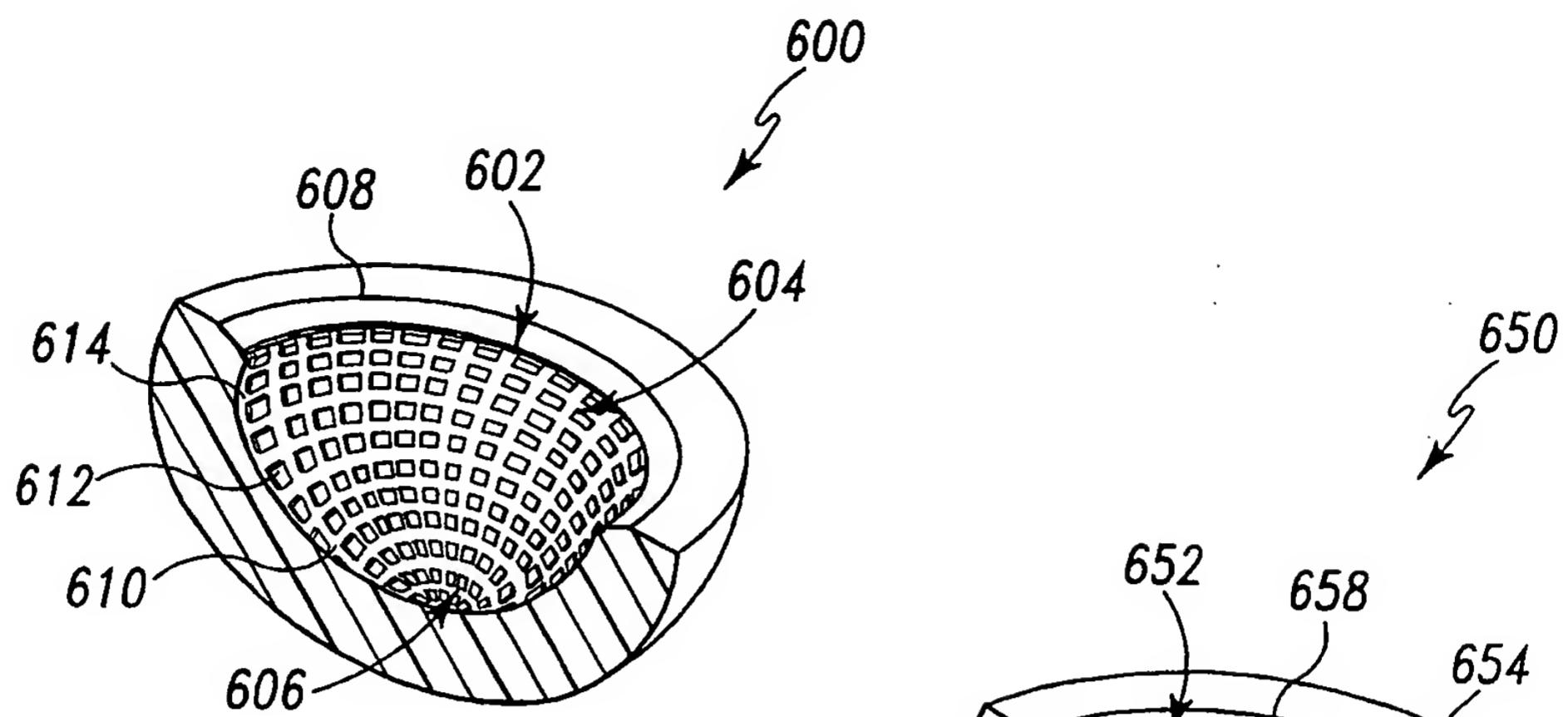


Fig. 9

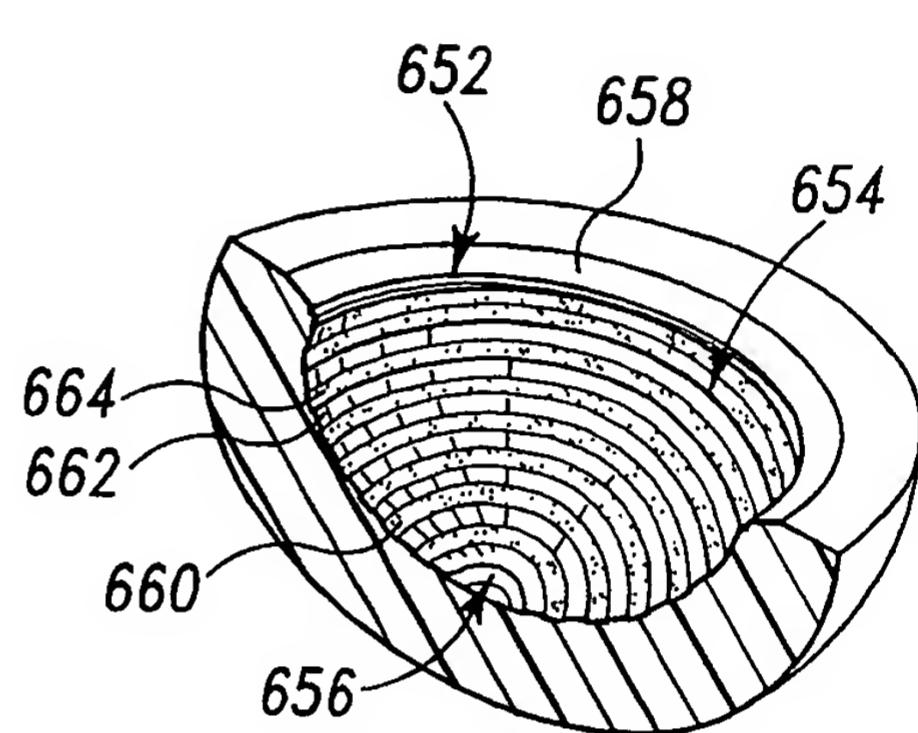


Fig. 10

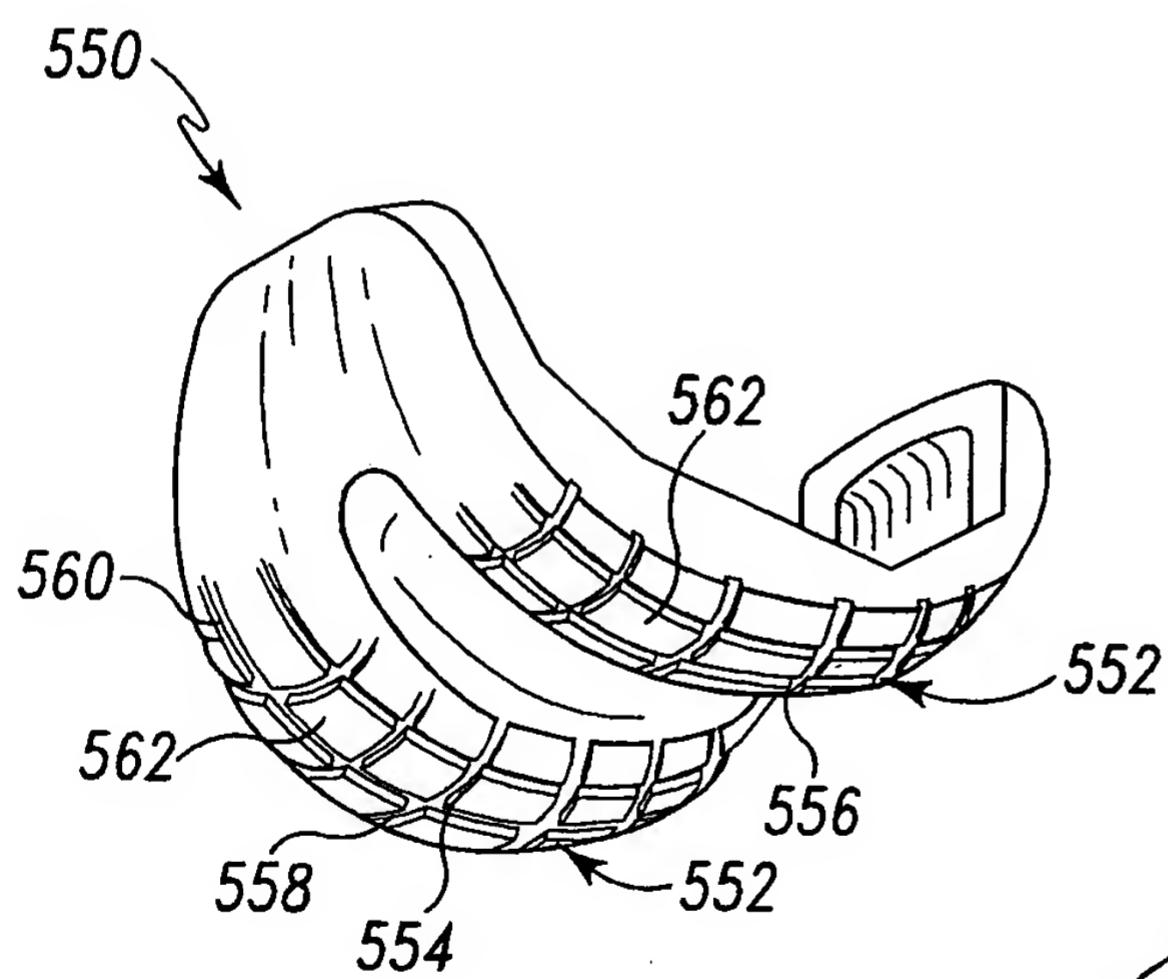


Fig. 14

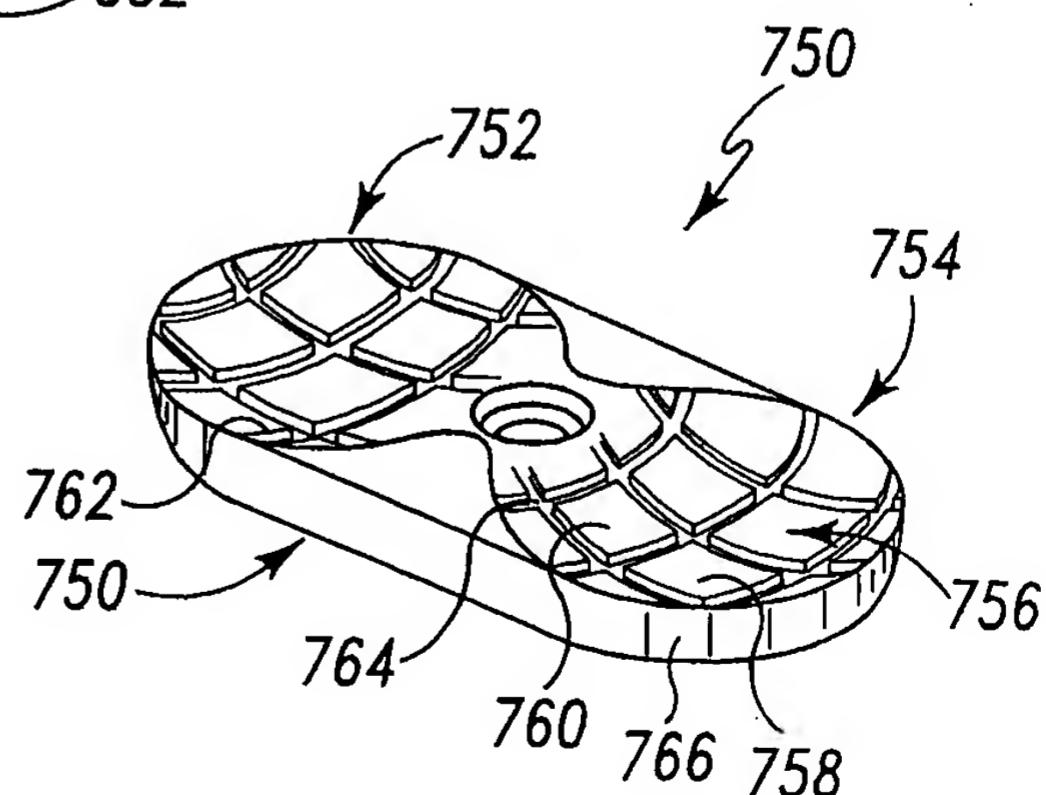


Fig. 15

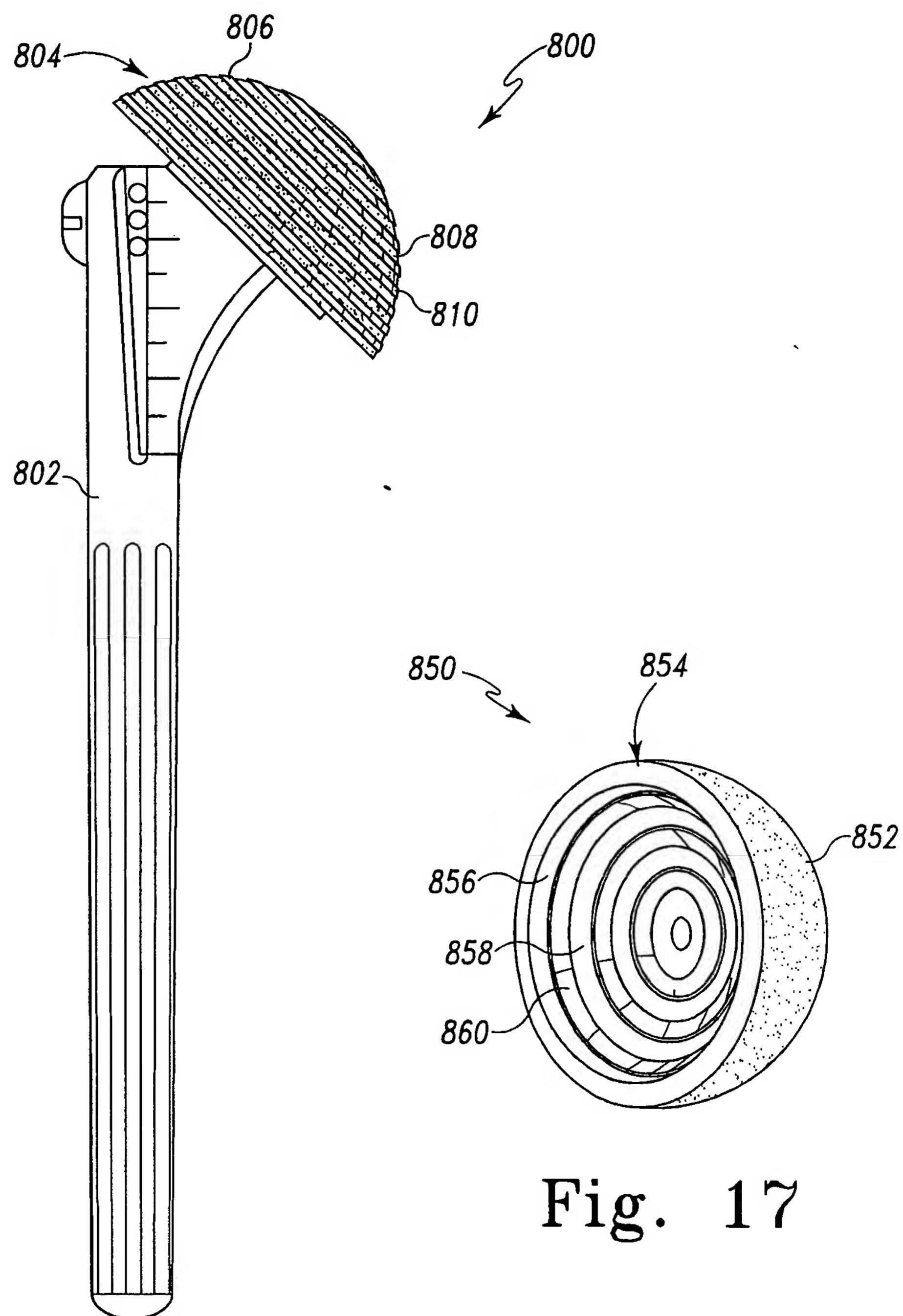


Fig. 16

Fig. 17

COBALT CHROMIUM ON COBALT CHROMIUM

Diameter (mm)	40 μm			60 μm			80 μm			100 μm			120 μm		
	% AREA OF RELIEF (OF UNINTERRUPTED ARTICULAR CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm^2)	% AREA OF RELIEF (OF UNINTERRUPTED ARTICULAR CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm^2)	% AREA OF RELIEF (OF UNINTERRUPTED ARTICULAR CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm^2)	% AREA OF RELIEF (OF UNINTERRUPTED ARTICULAR CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm^2)	% AREA OF RELIEF (OF UNINTERRUPTED ARTICULAR CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm^2)
22	59.65	0.0	0.0	45.55	0.0	0.0	37.62	0.0	0.0	32.44	0.0	0.0	26.74	0.0	0.0
23	63.29	5.7	0.44	48.32	0.0	0.0	39.91	0.0	0.0	34.42	0.0	0.0	30.49	0.0	0.0
24	66.98	10.9	0.81	51.14	0.0	0.0	42.24	0.0	0.0	36.42	0.0	0.0	32.27	0.0	0.0
25	70.72	15.7	1.13	54.00	0.0	0.0	44.60	0.0	0.0	38.45	0.0	0.0	34.07	0.0	0.0
26	74.51	20.0	1.40	56.89	0.0	0.0	46.99	0.0	0.0	40.15	0.0	0.0	35.90	0.0	0.0
27	78.36	23.9	1.63	59.83	0.3	0.02	49.41	0.0	0.0	42.60	0.0	0.0	37.74	0.0	0.0
28	82.25	27.5	1.84	62.80	5.0	0.26	51.86	0.0	0.0	44.71	0.0	0.0	39.62	0.0	0.0
29	86.18	30.8	2.01	65.80	9.1	0.47	54.34	0.0	0.0	46.85	0.0	0.0	41.51	0.0	0.0
30	90.17	33.8	2.16	68.84	13.4	0.65	56.85	0.0	0.0	49.02	0.0	0.0	43.42	0.0	0.0
31	94.19	36.7	2.29	71.91	17.1	0.81	59.39	0.0	0.0	51.20	0.0	0.0	45.36	0.0	0.0
32	98.26	39.3	2.40	75.02	20.5	0.96	61.95	3.7	0.14	53.41	0.0	0.0	47.32	0.0	0.0
33	102.38	41.7	2.50	78.16	23.7	1.08	64.55	7.6	0.29	55.65	0.0	0.0	49.30	0.0	0.0
34	106.53	44.0	2.58	81.33	26.7	1.19	67.16	11.2	0.41	57.90	0.0	0.0	51.30	0.0	0.0
35	110.73	46.1	2.65	84.53	29.4	1.29	69.81	14.6	0.53	60.18	0.9	0.03	53.31	0.0	0.0
36	114.96	48.1	2.72	87.77	32.0	1.38	72.48	17.7	0.63	62.48	4.5	0.14	55.35	0.0	0.0
37	119.24	50.0	2.77	91.03	34.5	1.46	75.17	20.6	0.72	64.80	8.0	0.24	57.41	0.0	0.0
38	123.55	51.7	2.82	94.32	36.8	1.53	77.89	23.4	0.80	67.14	11.2	0.33	59.48	0.0	0.0
39	127.90	53.4	2.86	97.64	38.9	1.59	80.63	26.0	0.88	69.51	14.2	0.41	61.57	3.1	0.08
40	132.29	54.9	2.89	100.99	40.9	1.65	83.39	28.5	0.94	71.89	17.0	0.49	63.68	6.3	0.16
41	136.72	56.4	2.92	104.37	42.9	1.69	86.18	30.8	1.00	74.29	19.7	0.55	65.81	9.4	0.23
42	141.18	57.8	2.94	107.77	44.7	1.74	88.93	33.0	1.06	76.72	22.3	0.62	67.96	12.2	0.30
43	145.68	59.1	2.96	111.21	46.4	1.78	91.83	35.0	1.11	79.16	24.6	0.67	70.12	14.9	0.36
44	150.21	60.3	2.98	114.67	48.0	1.81	94.68	37.0	1.15	81.62	26.9	0.72	72.30	17.5	0.42
45	154.78	61.5	2.99	118.15	49.5	1.84	97.56	38.9	1.19	84.10	29.1	0.77	74.50	19.9	0.47
46	159.38	62.6	3.00	121.66	51.0	1.87	100.46	40.6	1.23	86.60	31.1	0.81	76.71	22.2	0.51
47	164.01	63.6	3.01	125.20	52.4	1.89	103.38	42.3	1.26	89.12	33.1	0.85	78.94	24.4	0.56
48	168.68	64.6	3.01	128.76	53.7	1.91	106.32	43.9	1.29	91.65	34.9	0.88	81.18	26.5	0.60
49	173.38	65.6	3.02	132.35	54.9	1.93	109.28	45.4	1.32	94.20	36.7	0.92	83.44	28.5	0.63
50	178.11	66.5	3.02	135.96	56.1	1.94	112.26	46.9	1.34	96.77	38.4	0.95	85.72	30.4	0.66
51	182.87	67.4	3.02	139.60	57.3	1.96	115.26	48.3	1.36	99.36	40.0	0.97	88.01	32.2	0.69
52	187.67	68.2	3.03	143.25	58.4	1.97	118.28	49.6	1.38	101.96	41.5	1.00	90.31	34.0	0.72
53	192.49	69.0	3.01	146.94	59.4	1.98	121.32	50.8	1.40	104.58	43.0	1.02	92.63	35.6	0.75
54	197.35	69.8	3.01	150.64	60.4	1.99	124.38	52.0	1.41	107.22	44.4	1.04	94.97	37.2	0.77
55	202.24	70.5	3.00	154.37	61.4	1.99	127.46	53.2	1.43	109.87	45.7	1.06	97.32	38.7	0.79
56	207.15	71.2	2.99	158.12	62.3	2.00	130.56	54.3	1.44	112.54	47.0	1.07	99.68	40.2	0.81
57	212.10	71.9	2.99	161.90	63.2	2.00	133.68	55.4	1.45	115.22	48.2	1.09	102.06	41.6	0.83
58	217.07	72.5	2.98	165.69	64.0	2.01	136.81	56.4	1.46	117.93	49.4	1.10	104.45	42.9	0.85
59	222.07	73.1	2.97	169.51	64.8	2.01	139.96	57.4	1.47	120.64	50.6	1.12	106.86	44.2	0.86
60	227.11	73.7	2.96	173.35	65.6	2.01	143.13	58.3	1.48	123.37	51.7	1.13	109.28	45.4	0.88

BASELINE CONTACT AREA
MINIMUM X AREA OF RELIEF (COMPARED WITH UNINTERRUPTED BEARING SURFACE)
MINIMUM X AREA OF RELIEF (COMPARED WITH TOTAL ARTICULAR SURFACE)
MAXIMUM X AREA OF RELIEF (COMPARED WITH UNINTERRUPTED BEARING SURFACE)
MAXIMUM X AREA OF RELIEF (COMPARED WITH TOTAL ARTICULAR SURFACE)

Fig. 18

METAL-METAL

5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0

940

◆ 40 μ m ▲ 60 μ m ● 80 μ m ■ 100 μ m * 120 μ m
 ♦ 40 μ m ▲ 60 μ m ● 80 μ m ■ 100 μ m * 120 μ m

3.02 %

73.7 %

% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)

% AREA OF RELIEF (OF UNINTERRUPTED BEARING SURFACE)



Fig. 19

CERAMIC ON CERAMIC

PHENOMENON (mm)	40 μm			60 μm			80 μm			100 μm			120 μm		
	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT SURFACE AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT SURFACE AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT SURFACE AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT SURFACE AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT SURFACE AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)
22	42.43	0.0	0.00	32.40			26.76			23.08			20.45		
23	45.02	5.7	0.31	34.38			28.39			24.48			21.69		
24	47.65	10.9	0.58	36.38			30.05			25.91			22.96		
25	50.31	15.7	0.80	38.41			31.73			27.36			24.24		
26	53.01	20.0	1.00	40.47			33.43			28.82			25.54		
27	55.74	23.9	1.16	42.56	0.3	0.01	35.15			30.31			26.85		
28	59.51	27.5	1.31	44.67	5.0	0.18	36.89			31.81			28.18		
29	61.31	30.8	1.43	46.81	9.4	0.33	38.66			33.33			29.53		
30	64.14	33.8	1.54	48.97	13.4	0.46	40.44			34.87			30.89		
31	67.01	36.7	1.63	51.16	17.1	0.58	42.25			36.42			32.27		
32	69.80	39.3	1.71	53.37	20.5	0.68	44.07	3.7	0.10	38.00			33.66		
33	72.83	41.7	1.78	55.60	23.7	0.77	45.92	7.6	0.20	39.59			35.07		
34	75.78	44.0	1.84	57.86	26.7	0.85	47.78	11.2	0.29	41.19			36.49		
35	78.77	46.1	1.89	60.13	29.4	0.92	49.66	14.6	0.38	42.81	0.9	0.02	37.93		
36	81.78	48.1	1.93	62.43	32.0	0.98	51.56	17.7	0.45	44.45	4.5	0.10	39.37		
37	84.82	50.0	1.97	64.76	34.5	1.04	53.47	20.6	0.51	46.10	8.0	0.17	40.84		
38	87.89	51.7	2.00	67.10	36.8	1.09	55.41	23.4	0.57	47.77	11.2	0.24	42.31		
39	90.99	53.4	2.03	60.46	38.9	1.13	57.36	26.0	0.62	49.45	14.2	0.29	43.80		
40	94.11	54.9	2.06	71.84	40.9	1.17	59.33	28.5	0.67	51.14	17.0	0.35	45.30	0.6	0.01
41	97.26	56.4	2.08	74.25	42.9	1.20	61.31	30.8	0.71	52.85	19.7	0.39	46.82	3.8	0.07
42	100.43	57.8	2.09	76.67	44.7	1.24	63.31	33.0	0.75	54.58	22.3	0.44	48.34	6.9	0.12
43	103.63	59.1	2.11	79.11	46.4	1.26	65.32	35.0	0.79	56.31	24.6	0.48	49.88	9.7	0.17
44	106.86	60.3	2.12	81.57	48.0	1.29	67.36	37.0	0.82	58.06	26.9	0.51	51.43	12.5	0.21
45	110.10	61.5	2.13	84.05	49.5	1.31	69.40	38.9	0.85	59.83	29.1	0.55	53.00	15.0	0.25
46	113.38	62.6	2.13	86.55	51.0	1.33	71.46	40.6	0.87	61.60	31.1	0.58	54.57	17.5	0.29
47	116.67	63.6	2.14	89.06	52.4	1.34	73.54	42.3	0.90	63.39	33.1	0.60	56.15	19.8	0.32
48	119.99	64.6	2.14	91.60	53.7	1.36	75.63	43.9	0.92	65.20	34.9	0.63	57.75	22.0	0.35
49	123.34	65.6	2.15	94.15	54.9	1.37	77.74	45.4	0.94	67.01	36.7	0.65	59.36	24.2	0.38
50	126.70	66.5	2.15	96.72	56.1	1.38	79.86	46.9	0.95	68.84	38.4	0.67	60.98	26.2	0.41
51	130.09	67.4	2.15	99.31	57.3	1.39	82.00	48.3	0.97	70.68	40.0	0.69	62.61	28.1	0.43
52	133.50	68.2	2.14	101.91	58.4	1.40	84.15	49.6	0.98	72.53	41.5	0.71	64.25	29.9	0.45
53	136.94	69.0	2.14	104.53	59.4	1.41	86.31	50.8	0.99	74.40	43.0	0.72	65.90	31.7	0.47
54	140.39	69.8	2.14	107.16	60.4	1.41	88.48	52.0	1.01	76.27	44.4	0.74	67.56	33.4	0.49
55	143.87	70.5	2.13	109.82	61.4	1.42	90.67	53.2	1.02	78.16	45.7	0.75	69.23	35.0	0.51
56	147.36	71.2	2.13	112.49	62.3	1.42	92.88	54.3	1.02	80.06	47.0	0.78	70.91	36.5	0.53
57	150.88	71.9	2.13	115.17	63.2	1.43	95.09	55.4	1.03	81.97	48.2	0.77	72.60	38.0	0.54
58	154.42	72.5	2.12	117.87	64.0	1.43	97.32	56.4	1.04	83.89	49.4	0.78	74.31	39.4	0.55
59	157.98	73.1	2.11	120.59	64.8	1.43	99.57	57.4	1.04	85.82	50.6	0.79	76.02	40.8	0.57
60	161.56	73.7	2.11	123.32	65.6	1.43	101.82	58.3	1.05	87.77	51.7	0.80	77.74	42.1	0.58

BASELINE CONTACT AREA
MINIMUM X AREA OF RELIEF (COMPARED WITH UNINTERRUPTED BEARING SURFACE)
MAXIMUM X AREA OF RELIEF (COMPARED WITH TOTAL ARTICULAR SURFACE)
MAXIMUM X AREA OF RELIEF (COMPARED WITH UNINTERRUPTED BEARING SURFACE)

Fig. 20

CERAMIC-CERAMIC

960 ↙

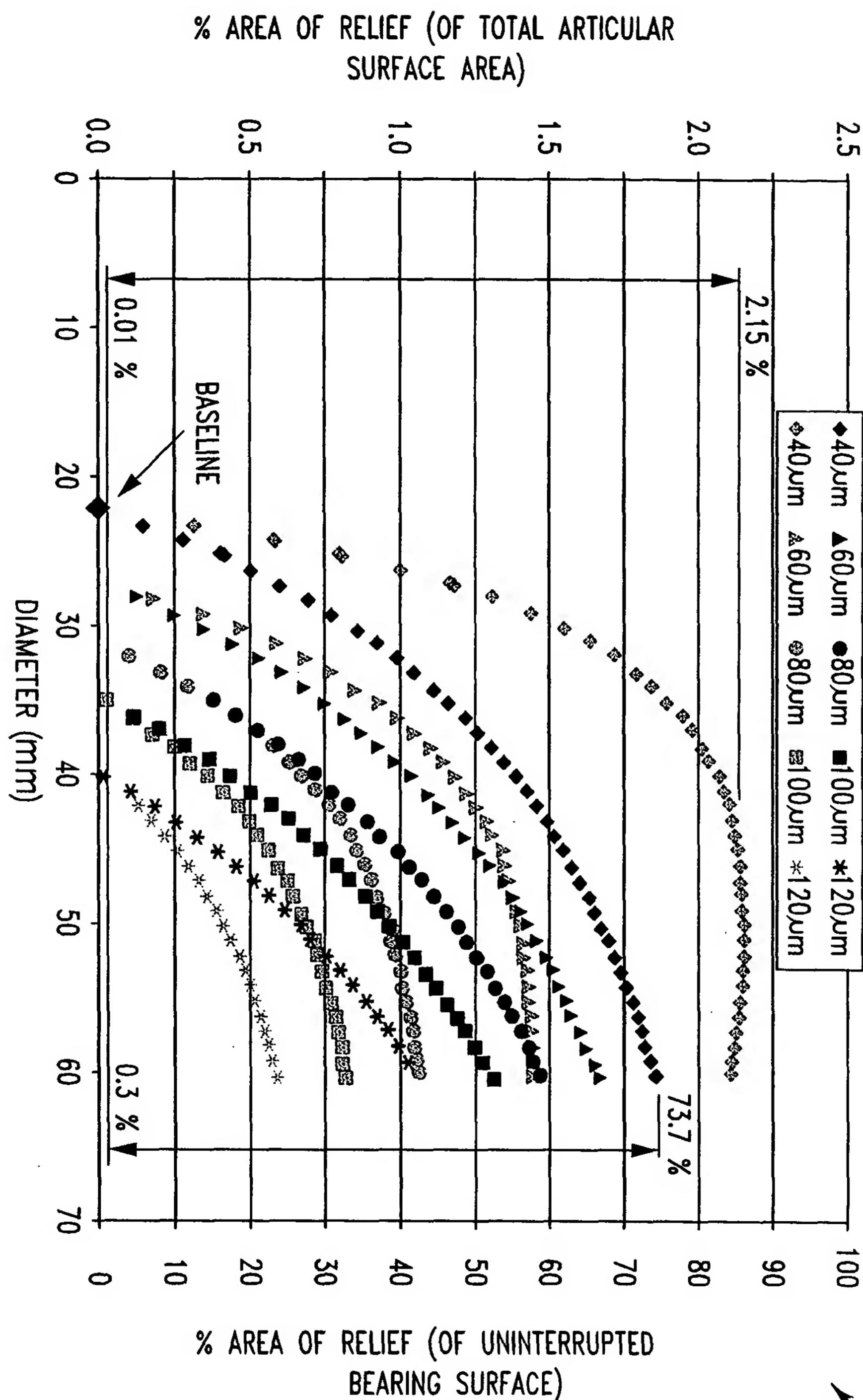


Fig. 21

COBALT CHROMIUM ON POLYETHYLENE

ΦNominal (mm)	300 μm			400 μm			500 μm			600 μm		
	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)	AREA (mm ²)	% AREA OF RELIEF (OF UNINTERRUPTED CONTACT AREA)	% AREA OF RELIEF (OF TOTAL ARTICULAR SURFACE AREA)
22	504.69	36.4	24.19	417.85	23.2	12.77	361.17	11.2	5.31	320.78	0.0	0.00
23	535.29	40.1	25.82	443.14	27.6	14.73	382.97	16.2	7.49	340.10	5.7	2.33
24	566.34	43.4	27.14	468.79	31.6	16.36	405.09	20.8	9.32	359.71	10.8	4.30
25	597.83	46.3	28.22	494.80	35.2	17.73	427.52	25.0	10.87	379.58	15.5	5.99
26	629.73	49.1	29.10	521.15	38.4	18.87	450.25	26.8	12.19	399.72	19.7	7.43
27	662.04	51.5	29.80	547.84	41.4	19.83	473.26	32.2	13.32	420.11	23.6	8.67
28	694.76	53.8	30.37	574.86	44.2	20.63	496.56	35.4	14.27	440.76	27.2	9.74
29	727.86	55.9	30.82	602.20	45.7	21.30	520.14	38.3	15.09	461.65	30.5	10.66
30	761.34	57.9	31.16	629.85	49.1	21.86	543.98	41.0	15.79	482.77	33.6	11.46
31	795.19	59.7	31.43	657.82	51.2	22.33	568.09	43.5	16.38	504.14	36.4	12.15
32	829.41	61.3	31.62	686.08	53.2	22.71	592.46	45.9	16.89	525.73	39.0	12.74
33	863.99	62.9	31.76	714.63	55.1	23.03	617.08	48.0	17.32	547.54	41.4	13.26
34	908.91	64.3	31.84	743.48	56.9	23.28	641.95	50.0	17.69	569.58	43.7	13.70
35	944.18	65.7	31.88	772.60	58.5	23.48	667.06	51.9	18.00	591.83	45.8	14.09
36	989.78	66.9	31.88	802.01	60.0	23.64	692.42	53.7	18.26	614.29	47.8	14.42
37	1005.72	68.1	31.85	831.68	61.4	23.76	718.00	55.3	18.47	636.95	49.6	14.70
38	1041.97	69.2	31.80	861.63	62.8	23.85	743.82	56.9	18.65	659.83	51.4	14.95
39	1078.55	70.3	31.72	891.83	64.0	23.90	769.86	58.3	18.80	682.90	53.0	15.16
40	1115.44	71.2	31.62	922.30	65.2	23.93	796.12	59.7	18.91	706.17	54.6	15.33
41	1152.63	72.2	31.50	953.01	66.3	23.94	822.60	61.0	19.01	729.63	56.0	15.48
42	1190.13	73.0	31.38	983.98	67.4	23.94	849.30	62.2	19.07	753.28	57.4	15.61
43	1227.93	73.9	31.23	1015.19	68.4	23.91	876.21	63.4	19.12	777.12	58.7	15.71
44	1266.02	74.7	31.08	1046.65	69.4	23.87	903.33	64.5	19.16	801.14	60.0	15.80
45	1304.40	75.4	30.92	1078.34	70.3	23.82	930.65	65.5	19.17	825.34	61.1	15.86
46	1343.06	76.1	30.76	1110.27	71.1	23.75	958.17	66.5	19.18	849.72	62.2	15.91
47	1382.00	76.8	30.58	1142.42	71.9	23.68	985.90	67.5	19.17	874.28	62.3	15.95
48	1421.22	77.4	30.41	1174.81	72.7	23.60	1013.81	68.4	19.15	899.02	64.3	15.98
49	1460.71	78.0	30.23	1207.42	73.4	23.51	1041.93	69.2	19.12	923.92	65.3	15.99
50	1500.47	78.6	30.04	1240.25	74.1	23.41	1070.23	70.0	19.09	948.99	66.2	16.00
51	1540.50	79.2	29.85	1273.30	74.8	23.31	1098.72	70.8	19.04	974.23	67.1	15.99
52	1580.78	79.7	29.67	1306.57	75.4	23.21	1127.40	71.5	18.99	999.64	67.9	15.98
53	1621.33	80.2	29.48	1340.05	76.1	23.10	1156.26	72.3	18.94	1025.20	68.7	15.97
54	1662.13	80.7	29.29	1373.74	76.8	22.99	1185.30	72.9	18.87	1050.93	69.5	15.94
55	1703.18	81.2	29.09	1407.64	77.2	22.87	1214.53	73.6	18.81	1076.81	70.2	15.91
56	1744.48	81.6	28.90	1441.74	77.8	22.76	1243.92	74.2	18.74	1102.86	70.9	15.88
57	1786.03	82.0	28.71	1476.05	78.3	22.64	1273.50	74.8	18.67	1129.05	71.6	15.84
58	1827.82	82.5	28.52	1505.56	78.8	22.52	1303.24	75.4	18.59	1155.40	72.2	15.80
59	1869.85	82.8	28.33	1535.26	79.2	22.39	1333.16	75.9	18.52	1181.90	72.9	15.75
60	1912.12	83.2	28.14	1580.16	79.7	22.27	1363.25	76.5	18.44	1208.55	73.5	15.70

BASELINE CONTACT AREA
 MINIMUM X AREA OF RELIEF (COMPARED WITH UNINTERRUPTED BEARING SURFACE)
 MINIMUM X AREA OF RELIEF (COMPARED WITH TOTAL ARTICULAR SURFACE)
 MAXIMUM X AREA OF RELIEF (COMPARED WITH UNINTERRUPTED BEARING SURFACE)
 MAXIMUM X AREA OF RELIEF (COMPARED WITH TOTAL ARTICULAR SURFACE)

Fig. 22

970

CoCr-PE

980

% AREA OF RELIEF (OF TOTAL ARTICULAR
SURFACE AREA)

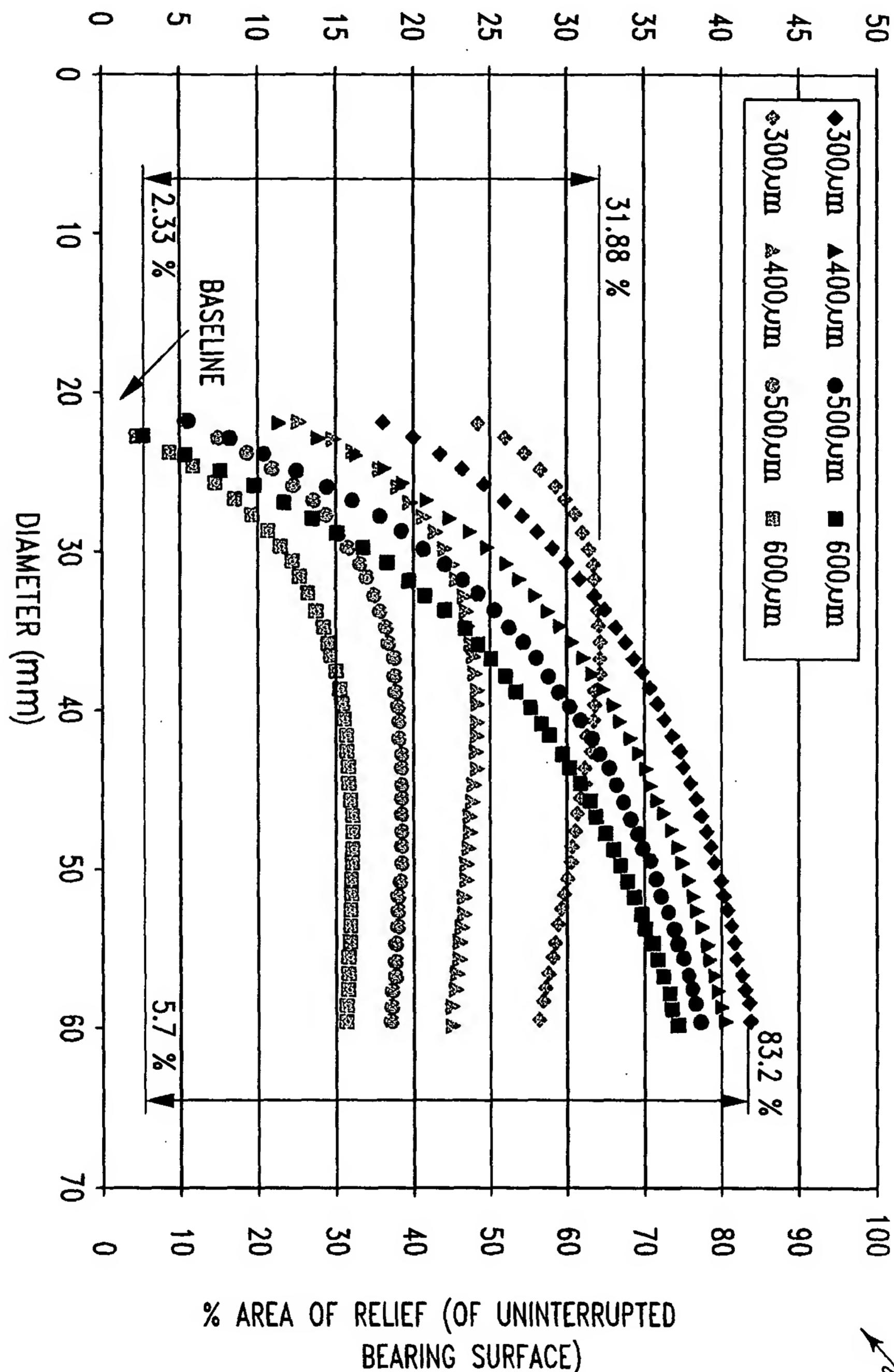


Fig. 23